

Claims

1. A method for transmitting data packets, where
 - a packet data connection is indicated with a connection identifier and the destination of the packet data connection is indicated with a destination identifier,
 - data packets are sorted (504, 505) into initialized transmission queues before transmission,
 - a destination identifier is involved in the initialization of a transmission queue,
 - at least one connection identifier is related to each transmission queue,
 - a set of proper connection identifiers is the union of the connection identifiers related to the initialized transmission queues and
 - a data packet having a proper connection identifier is placed (505) to the transmission queue determined by the connection identifier, characterized in that
 - the initialization of a new transmission queue is triggered (506, 508) by a data packet not having a proper connection identifier and having a destination identifier and
 - after a successful initialization of a new transmission queue the data packet that triggered the initialization is placed (509) to the new transmission queue.
2. A method according to claim 1, characterized in that the activation of a new queue is triggered by a data packet not having a queue identifier.
3. A method according to the claim 1, characterized in that the activation of a new queue is triggered by a data packet having a queue identifier that is not a proper queue identifier.
4. A method according to claim 1, characterized in that the sender of a data packet is notified (605) if the initialization of a new transmission queue is not successful.
5. A method according to claim 1, characterized in that a certain data field in a protocol packet header is used as the connection identifier.
6. A method according to claim 5, characterized in that a flow label of General Packet Radio Service Tunneling Protocol header is used as the connection identifier and a certain cellular network subscriber identifier is used as the destination identifier.

7. A method according to claim 1, characterized in that transmission resources in a radio access network are reserved, when the initialization of a new queue is triggered.

5 8. A method according to claim 7, characterized in that transmission resources are reserved using Radio Access Network Application Part in Universal Mobile Communication System.

9. A network element, which comprises

- means for storing data packet to transmission queues,
- means for indicating (804) the connections related to each transmission queue with
10 connection identifiers,

- means for detecting (802) a connection identifier in a data packet, and
- means for placing (805) a data packet to an initialized transmission queue whose connection identifier is equal to the connection identifier in the data packet, characterized in that it further comprises means for triggering (806) the
15 initialization of a new transmission queue on the arrival of a data packet not having a connection identifier equal to any of the connection identifiers of the transmission queues and having a destination identifier.

10. A network element according to claim 9, characterized in that it is a network element of a cellular network.

20 11. A network element according to claim 10, characterized in that it is a network element of a Universal Mobile Telecommunication System.

12. A network element according to claim 11, characterized in that it is a radio network controller.

25 13. A network element according to claim 10, characterized in that it is a network element of a General Packet Radio Service core network.

14. A network element according to claim 13, characterized in that it is a Serving GPRS Supporting Node.